

CHAPTER 3: IMPLEMENTING THE TRANSPORTATION CONFORMITY REQUIREMENTS

LINKING TRANSPORTATION AND AIR QUALITY PLANNING:

IMPLEMENTATION OF THE TRANSPORTATION CONFORMITY REGULATIONS IN 15 NONATTAINMENT AREAS

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March 1999

*A Report to the
U.S. Environmental Protection Agency
and the
Federal Highway Administration,
U.S. Department of Transportation*

Publication Number
EPA420-R-99-011

Chapter 3

IMPLEMENTING THE TRANSPORTATION CONFORMITY REQUIREMENTS

The 1993 transportation conformity regulations established a set of technical and procedural requirements, described in Chapter 2, that had to be satisfied in order to demonstrate conformity. Each of the 15 study sites experienced at least some difficulty with these requirements, which the remainder of this chapter describes. This analysis emphasizes the *problems* encountered as conformity was implemented.¹ Chapters 4 and 5 explore more broadly the impacts that the conformity process had on transportation and air quality planning.

The problems encountered implementing conformity in the study sites, summarized in Table 3-1 by study site, are grouped in six categories:

- **Emission tests:** passing the emission budget and build/no-build tests,
- **Modeling procedures:** fulfilling the transportation modeling requirements,
- **TCM implementation:** demonstrating timely implementation of those transportation control measures committed to in control strategy SIPs and maintenance plans,
- **Fiscal constraint:** showing that the

transportation plan and program meet the ISTEA fiscal constraint requirement,

- **SIP failure:** triggering conformity problems because of problems with SIP submissions, and
- **Human error:** experiencing conformity problems because of procedural confusion and/or data analysis mistakes.

As will be discussed, the nature and consequences of these problems for the transportation planning process and air quality regulation varied significantly. In applying the specific emission tests of the 1993 regulations, five study areas encountered significant difficulties with the budget tests, which continue to pose serious problems for Atlanta, Charlotte, and Houston. The build/no-build test was problematic for even more areas, but the difficulties were less severe – and, because this requirement was substantially altered by the 1997 conformity amendments, the problem has become moot in most areas. No study area reported difficulty with the less-than-1990 test.

The other conformity requirements were generally less problematic than the emission tests. While a number of study sites had some difficulties gearing up for the network modeling requirements of the 1993 regulations, only New York City and Chicago faced serious conformity delays as a result.

¹As noted in Chapter 1, although a full assessment of the technical dimension of conformity modeling was beyond the scope of the research, the project sought to examine the technical issues in the larger context of the institutional relationships involved.

Table 3-1
Types of Conformity Problems by Nonattainment Area

Nonattainment Area	Emission Budget Test	Emission Build/ No-Build Test	Modeling Requirements	Timely TCM Implementation	Fiscal Constraint	SIP Failures	Human Error
Atlanta	X					X**	
Baltimore		X*				X	
Boston		X			X		X
Charlotte	X						X
Chicago		X	X				
Denver	X				X		
Houston	X	X			X	X**	
Milwaukee		X*					
New Jersey		X*					
New York		X*	X				
Philadelphia		X*					
Phoenix		X	X				
Portland							X
Salt Lake	X					X	
San Francisco				X			

* Although these areas have reported very close calls passing the build/no-build test, particularly for NO_x, they have not necessarily had to make any adjustments and have not experienced conformity delays as a result.

** These are technical SIP failures that had no discernable impact on local planning.

The fiscal constraint requirement posed no serious problems for any areas, although Boston experienced a brief conformity delay because of this test. Initially, the provisions of the 1993 rule regarding SIP failures caused problems for a few areas; but the 1995 conformity amendments alleviated this issue. Within the study time frame, only Salt Lake City suffered a conformity freeze or lapse because of SIP failure.

Table 3-2 identifies for each study site the conformity problems encountered and their impacts. In the following pages, the extent to which study sites experienced difficulty with each category of conformity problem is examined in greater depth.

Passing the Emission Tests

The 1993 conformity rule requires areas to demonstrate that emissions from transportation plans/programs will remain within the allowable cap set by the SIP budget (the *emission budget* test) and that transportation plans will contribute to the overall reduction of pollution (the *build/no-build* and the *less-than-1990* tests).

Budget Test

Difficulty passing the budget test has proven to be the most serious type of conformity problem, causing most of the lapses experienced in the study areas. Five of the study areas have experienced difficulties with the budget tests. Four of them – Atlanta, Charlotte, Houston, Salt Lake City – had difficulty passing the ozone budget tests; and two areas

– Denver and Salt Lake City – had trouble with PM_{10} budgets. Only Houston was able to avoid a lapse during the study period. As a result, budget test problems have had the largest impact on transportation and air quality planning (as will be discussed in greater depth in Chapters 4 and 5).

ATLANTA. Ozone budget test difficulties have led to a conformity lapse and caused a number of transportation projects to be scaled back, delayed, or indefinitely postponed. Although the area had little difficulty with conformity in 1994, the MPO began implementing model and data upgrades in 1995 that predicted higher emission levels than had been reflected in the earlier analysis. As a result, Atlanta barely squeaked through its 1995 budget analysis.

In 1996, passing the budget test proved even more problematic. Because the area was experiencing higher than expected VMT growth and was slow to implement inspection and maintenance and reformulated gasoline programs, its 1999 NO_x budget for ozone set an emissions cap that the area could not meet in developing a new TIP. ARC, the Atlanta MPO, and Georgia DOT struggled to develop strategies that would close the large gap between allowable and projected emissions. Ultimately, the northern arc of the Outer Loop was barred from moving into the TIP, the road to the massive new Mall of Georgia was scaled back, and only exempt and grandfathered projects from the previously conformed 1995 TIP were allowed to move forward.

These problems continued throughout 1997 during which ARC could not develop a

Table 3-2
Problems Meeting the Conformity Requirements by Nonattainment Area¹

Area	Problem	Impact
Atlanta	1996 - Budget Test (NOx for ozone) 1997 - Budget Test (NOx for ozone)	1996 - Conformity determination could not be completed; MPO advanced only grandfathered and exempt projects. 1997 - Conformity determination could not be completed. After EPA-DOT dispute resolved, MPO adopted Interim TIP with only grandfathered and exempt projects. Conformity lapsed: January 1998.
Baltimore	1995 - Non-implementation of ECO 1997 - Legislature made I/M voluntary	1995 - MPO developed Regional Commuter Assistance Program to make up for lost emission reductions from ECO program. 1997 - Governor vetoed voluntary I/M program in part because a non-mandatory program would have caused EPA disapproval of the 15% SIP, with consequences for conformity.
Boston	1994 - Data Entry Error 1994 - Fiscal Constraint 1995 - Build/no-build Test (for CO, VOC and NOx)	1994 - Conformity determination delayed for 2-3 months until problem discovered. 1994 - Conformity approval delayed while STIP fiscal constraint resolved. 1995 - MPO added CMAQ project to TIP for off-model analysis.
Charlotte	1994 - Budget Test (NOx and VOC for ozone) 1996 - Budget Test (NOx and VOC for ozone)	1994 - Conformity analysis completed by creating budget reconciliation methodology. 1996 - Conformity determination could not be completed. MPO advanced only grandfathered and exempt projects. Conformity lapsed: January 1997, with no resolution by early 1998.
Chicago	1994 - Build/no-build Test (NOx for ozone) 1994 - Network model assumptions questioned 1995 - Network model enhancements not in place	1994 - MPO completed off-model analysis for replacement buses. 1994 - Conformity determination delayed while MPO justified its low VMT estimates. 1995 - MPO advanced only grandfathered and exempt projects.

¹Milwaukee, New Jersey and Philadelphia are not included in this table because they reported only problems with the build/no-build tests that did not cause a delay to the conformity determination.

Area	Problem	Impact
Denver	1994 - Budget Test (PM ₁₀) 1996 - Budget Test (PM ₁₀ & NOx for PM ₁₀)	1994 - Conformity lapsed: November 1994 for approximately one year, until September 1995. Amended PM ₁₀ budgets. 1996 - MPO negotiated local agreements for sanding and sweeping measures, and air agency tightened I/M NOx test for future years.
Houston	1994 - Build/no-build Test (NOx for ozone) 1994 - Budget Test (VOC for ozone) 1997 - Budget Test (VOC for ozone)	1994 - Conformity delayed while waiting for a temporary NOx waiver. 1994 - MPO spread large highway projects out over several years and scaled back the Grand Parkway. 1997 - Air agency made technical corrections to submitted VOC budget.
New York	1995 - No network based transportation demand model 1996 - No network based transportation demand model	1995 - MPO advanced only grandfathered and exempt projects. 1996 - MPO received extension of 1994 TIP to advance grandfathered and exempt projects. In 1997, a new interim network model was approved, new budgets were submitted, and conformity determined.
Phoenix	1994 - Build/no-build Test (NOx for ozone) 1995 - Network model enhancements not complete	1994 - Conformity determination delayed several months until NOx waiver approved; MPO advanced only grandfathered and exempt projects 1995 - Conformity determination delayed until MPO completed model enhancements
Portland	1994 - Human Error (incorrect assumptions used in conformity analysis)	1994 - Conformity lapsed for one year; MPO advanced only grandfathered and exempt projects
Salt Lake	1993 - Incomplete SIP without protective finding. 1994 - Budget Test (NOx for PM ₁₀) 1995 - Budget Test (NOx for ozone)	1993 - Conformity frozen until SIP found complete in 1994. 1994 - Conformity lapsed November 1994 to October 1995; MPO received permission from EPA to use MOBILE 4 for conformity analysis of NOx for PM ₁₀ . 1995 - Air agency added ten years to the ozone maintenance plan.
San Francisco	1996 - Timely Implementation of TCMs questioned	1996 - MPO made more detailed accounting of TCM problems and steps to alleviate them.

new long-range plan that conformed. In August 1997, FHWA granted a six-month TIP extension, during which a controversy over grandfathering projects surfaced. Not able to develop a full conforming TIP, the MPO drafted an *interim* TIP (ITIP) that contained only TCMs written into SIPs that had received EPA approval, as well as grandfathered and exempt projects from the 1995 regional transportation plan update. Several dozen projects that ARC originally wanted to regard as grandfathered were not ultimately included in the ITIP because FHWA felt they could not meet the applicable NEPA requirements; EPA simultaneously reviewed the NEPA documents. FHWA's regional office was then prepared to approve the ITIP, but EPA's regional office raised concerns about several of the remaining grandfathered projects in the ITIP.

This led to sharp policy disagreements among the federal agencies. Even though the 1995 plan had received a conformity determination, EPA's regional office argued that the conformity analysis had not satisfied all of the applicable requirements of the conformity rule. EPA therefore believed that the disputed projects should not be grandfathered because they would substantially increase highway capacity, worsening air quality problems. Staff from the White House Council on Environmental Quality ultimately brokered a regional-level agreement among EPA, FHWA, and FTA that allowed five of six disputed projects to move forward in the ITIP, with two of these limited to planning and design. ARC removed the sixth project from the ITIP. The EPA-FHWA-FTA agreement also established dates by which the Atlanta area should complete a conforming long-range plan and an ozone

attainment demonstration.² Conformity lapsed in Atlanta on January 17, 1998.

CHARLOTTE. Like Atlanta, Charlotte has also experienced recurring problems with the ozone budget tests. Initially, these seemed mainly to be procedural difficulties, but subsequent problems led to a prolonged conformity lapse and the delay of some transportation projects. In 1993, the state air agency chose to request redesignation to attainment for Charlotte as a moderate ozone area that had not had recent air quality violations; the area prepared a maintenance plan rather than submit a 15% VOC reduction SIP. In 1994, during its first conformity determination under the 1993 conformity rule, the area found that future VOC and NO_x emission projections derived from the transportation plan were higher than the emission budgets in the ozone maintenance plan. Planners at the state air agency believed that the higher emissions in the transportation plan were due not to an actual increase in pollution, but to the difference between the methods used to calculate VMT in the base year for the emission budgets (using HPMS and other data) and those used to develop the new transportation plan (using the MPO's travel demand models). To rectify this problem, the area developed a reconciliation methodology that applied a corrections factor to the base-year inventories to make them comparable to the 1990 emission levels in the transportation

²In addition, the agreement recognized the need for national-level staff of EPA, FHWA, and FTA to develop a national memorandum of understanding or make changes in the conformity regulations to ensure proper use of the grandfathering provision, particularly to see that it was not used to evade the consequences of a conformity lapse.

plan. The air agency argued that once the difference in the base-year VMT calculations was reconciled, the area should conform if the emissions growth rate in the transportation plan stayed below the growth rate in the maintenance plan. Although the area passed conformity in 1994 using this methodology, EPA subsequently required that the area develop a technique that adjusted base-year VMT to match the SIP's base year emissions inventory rather than vice versa, as any adjustments applied to the budget would require a SIP amendment. The state and MPO subsequently accomplished this.

Problems with conformity did not surface again in Charlotte until 1996, when the area, experiencing substantial increases in VMT, began to have serious trouble passing the ozone budget tests for NO_x and VOC. In 1995, the MPO had decided that a conformity analysis was not required since the projects in the new TIP came from a conforming plan and had not undergone any major changes. Later in the year, however, the air agency discovered an error in its emission budget calculations. When the corrected budget was used in the conformity analysis for a proposed 1996 TIP, the results showed a substantial exceedance of the emission budget. Although much effort went into finding a solution – with the MPO, state DOT, and state air agency staff discussing many potential solutions – the budget test disparity could not be resolved, and the TIP could not be adopted. During 1996, the agencies tried unsuccessfully to develop a required transportation plan update that could meet conformity requirements. Conformity therefore lapsed in January 1997, and this lapse had not yet been resolved by early 1998. Although numerous grandfathered and exempt

projects continued to move forward during the lapse, three new transportation projects were held up.

HOUSTON. The budget test for ozone has also posed difficulties for Houston. Although at the end of the study period, the area had been able to resolve its conformity problems without a lapse, it was uncertain how much longer it would be able to do so. Houston's conformity problems began in 1994 when the area had trouble passing the VOC budget test. It resolved the problem by postponing some highway projects and scaling back the massive Grand Parkway project (although this was done more to meet fiscal constraint requirements than to pass the emission test). In 1997, Houston again had difficulties when it ran its first conformity analysis using a 1999 VOC budget, which tightened the emission cap from the 1996 budget level. Transportation planners found it difficult to show that emissions toward the end of the 20-year transportation planning horizon would stay below 1999 levels. This problem was resolved by making technical corrections to the submitted (but not yet approved) SIP that recalculated the budget using VMT estimates from the travel demand models rather than from HPMS data.

At the end of the study period, Houston was anticipating future problems passing the NO_x budget test for ozone. The area had been granted a temporary NO_x waiver in April 1995 that permanently expired at the end of 1997. As planners looked ahead, they were uncertain how the area would be able to reduce mobile source NO_x emissions sufficiently to stay within the emission cap imposed by a NO_x budget.

SALT LAKE CITY. The budget test for ozone also created problems for Salt Lake City, but this area did not experience a lapse. Like Charlotte, Salt Lake City had been redesignated to attainment, submitting a maintenance plan rather than a 15% SIP in 1993. In 1994, the area had difficulty demonstrating that emissions toward the end of the 20-year transportation planning horizon would stay below the 2005 NO_x budget in the ozone maintenance plan. To alleviate the problem, the area added 10 years to the maintenance plan, establishing budgets to 2015. The extended budgets, which take account of emission reductions from vehicle fleet turnover, allow NO_x emissions (as a precursor of ozone) to rise after the end of the 10-year maintenance plan without causing violations of the ozone standard. With higher budgets, the area passed conformity in 1995 and has not encountered subsequent problems with the conformity emissions tests for ozone.

In addition to its ozone budget problems, Salt Lake City also had difficulty passing the NO_x budget test for PM₁₀ in 1994. The area's PM₁₀ SIP had been developed in the late 1980s – long before the budget concept or the conformity procedures had been established in law. This proved particularly problematic for NO_x (as a precursor of PM₁₀). Although NO_x was not a consideration when the SIP was written, an implicit NO_x budget was derived from the SIP. Further complicating the NO_x issue was the fact that the NO_x budget had been derived using MOBILE 4, while the conformity analysis used MOBILE 5, which calculated much higher NO_x emissions for mobile sources. Unable to make this “apples and oranges” comparison work for conformity, the area lapsed in November 1994. Advancing

only grandfathered and exempt projects, the MPO tried to convince EPA that the budget problem was not the result of real increases in emissions but of differences in the way MOBILE 4 and MOBILE 5 projected NO_x emissions. EPA was eventually persuaded and has since allowed the Salt Lake City area to use MOBILE 4 in the conformity analysis for NO_x (as a precursor of PM₁₀, but not of ozone).³

DENVER. Like Salt Lake City, Denver lapsed when it tried to test conformity using budgets that were implicitly derived from a PM₁₀ SIP that pre-dated the conformity rule. Denver's budget problems began in 1994 during the conformity analysis of the 1994 TIP. Transportation planners could not demonstrate that emissions in the final horizon year of the transportation plan (2015) would stay below the 1997 PM₁₀ budget of 44 tpd in the maintenance plan. The area lapsed and advanced only grandfathered and exempt projects while it undertook the difficult and contentious task of amending the PM₁₀ budgets.

Working together, regional transportation and air quality planners sought a solution that would allow them to increase the PM₁₀ budget without jeopardizing the area's ability to reach PM₁₀ attainment. Analysis indicated that peak regional PM₁₀ emissions would be approximately 65 tpd in Denver's downtown core in 2015 if the proposed transportation plan were implemented. Further, the planners determined that the regional PM₁₀ emissions

³EPA permitted this practice in a limited number of PM₁₀ nonattainment areas because the SIP had been submitted and approved before the 1993 conformity regulations were finalized.

budget could be raised from 44 to 60 tpd – without either imposing new controls on stationary and area sources or causing violations of the NAAQS. Therefore, they proposed adopting mitigation measures that would reduce 2015 emissions to the 60 tpd level in the Denver core, while allowing the permissible level of PM₁₀ emissions to rise to the 60 tpd level in the suburban areas of the region.⁴ This proposal provoked months of controversy and criticism from environmental and public health advocates regarding the health effects of increased particulate levels. The proposed budget increase was approved for only a three-year period by the state air agency, allowing the area to conform the plan and TIP in 1995 but posing the threat of a recurring conformity problem. The state legislature subsequently intervened to allow the budget amendment to apply throughout the period covered by the SIP.

In 1996 Denver more briefly experienced problems passing the budget tests for both PM₁₀ and NO_x (as a precursor of PM₁₀), but was able to find solutions without sparking a major controversy or experiencing a lapse. To do so, the area adopted street sanding and sweeping agreements at the local level to reduce PM₁₀ emissions and promised future-year tightening of the standards in inspection and maintenance tests to pass the NO_x budget test.

⁴DRCOG was able to quantify its safety margin, showing how much emissions might rise, and assigned that budget to mobile sources. In its PM₁₀ SIP, it used dispersion modeling to determine where violations would occur in the region and committed to do dispersion modeling in the future to demonstrate conformity. The SIP also commits DRCOG to adopt additional control measures if they are needed in the future to pass conformity tests.

Build/No-Build Test

Many areas in the study experienced difficulty with the build/no-build tests – especially for NO_x. In some instances the conformity determination was slowed or delayed, but in no case did conformity lapse as a result of the build/no-build test.

Two study sites – Houston and Phoenix – realized in 1994 that they would not be able to pass the NO_x build/no-build test. Each applied for a NO_x waiver, which delayed its conformity determination while the waiver was processed. Phoenix received a permanent waiver, and Houston was granted a temporary waiver pending the results of a study to determine whether or not the area would benefit from NO_x controls. Houston's waiver, as noted above, expired at the end of 1997.

Several other study sites – including Baltimore, Boston, Chicago, Milwaukee, New Jersey, New York, and Philadelphia – have had varying degrees of difficulty with the build/no-build test. Some have been able to pass the NO_x build/no-build only by a razor-thin margin, sometimes by making small adjustments in the initial modeling assumptions. Some reported tipping the scales through off-model analysis of CMAQ projects that were not captured by the network model. Chicago followed this strategy in 1994, taking credit for new alternative fuel buses. (It subsequently applied for a NO_x waiver, which was granted in 1996.) After similar difficulty in 1995, the Boston MPO developed a way of handling this type of situation. It routinely does not claim credit in the regional analysis for projects such as park-and-ride lots, van-

pool programs, or replacement buses. Then, if build/no-build problems arise, it completes an off-model analysis of specific projects to demonstrate conformity.

Baltimore faced a potential build-no build problem that stemmed from state government resistance to the national Employee Commute Option program mandate in severe ozone non-attainment areas. Baltimore's 1994 transportation plan assumed ECO implementation. But in the face of significant opposition from the Baltimore business community, which feared being at a disadvantage to its competitors in nearby Washington, D.C. (an area not subject to the ECO mandate), Maryland's governor issued an executive order declaring ECO voluntary; and the legislature eliminated all program funding.⁵ When the Baltimore MPO continued to include ECO in its 1995 conformity analysis, the state air agency expressed discomfort that the program was nonetheless credited; and an environmental group questioned the validity of claiming full emission credit for a voluntary program. The MPO therefore deleted ECO from the conformity analysis, replacing it with a regional commuter assistance program that it pledged to implement in 2005.

Boston and Chicago reported a technicality in the way the build/no-build analysis is calculated that made the test highly problematic. Boston cited an example from its 1995 conformity analysis. When planners analyzed the 1996 milestone year, FY 1996 projects were in both the "action" scenario and the

"baseline" scenario (because it had already been conformed in the FY 1995-97 TIP). Because there had been no other regionally significant changes, the analysis showed no decrease in emissions in the "action" scenario, which is required by the conformity rule. The Boston MPO resolved this problem by adding a CMAQ project to the TIP for off-model analysis. Chicago, as noted above, took credit for new alternative fuel buses.

Most of the issues with the build/no-build tests no longer exist with implementation of the 1997 amendments to the conformity rule, which allow areas to use only the budget test for conformity 45 days after a SIP with a budget is submitted.⁶ Previously areas were required to continue the build/no-build tests until submitted budgets were approved by EPA, a process that can take more than a year.

Less-than-1990 Test

No study site reported problems satisfying the requirements of the less-than-1990 emission test.

Using the Required Modeling Techniques

Several areas had conformity problems due to the conformity rule's demand for use of a

⁵Congress subsequently amended the Clean Air Act to make the ECO program voluntary in the areas previously required to implement the program.

⁶This holds true unless a SIP budget has previously been approved by EPA for all or part of the time period in question. In that case, the old approved budget must be used for the time period for which it was approved until the new budget is approved as a replacement.

network-based transportation demand model with specific attributes. As noted earlier in this chapter, New York City experienced the most difficulty meeting the modeling requirements as the area had not previously used a network based model. New York demonstrated conformity in 1994 using qualitative analysis and sketch planning techniques, but it did not have the required network model up and running by the January 1995 deadline. The area therefore advanced only exempt and grandfathered projects in 1995. When the models were still not in place by 1996, the area sought and received a third-year extension of its 1994 TIP, continuing to move forward exempt and grandfathered projects. The first generation of network models was finally operational in 1997, and New York City was at last able to complete the required conformity analysis to adopt a new plan and TIP.

Chicago and Phoenix also experienced conformity delays while they worked on upgrading network models they already had in place. Chicago undertook a major overhaul of its already existing network model. In the process, CATS had to forgo a conformity analysis in 1995 as the required changes were not yet in place. The area therefore had to delay implementation of some projects, advancing only those that were grandfathered and exempt until the next conformity cycle. In Phoenix, the 1995 conformity determination was delayed – but only briefly – while model enhancements were completed.

Demonstrating Timely Implementation of SIP TCMs

Of the 15 study sites, only San Francisco reported any difficulty documenting timely implementation of SIP TCMs, and this did not cause any delay in demonstrating conformity. As part of the settlement of the suit brought by the Sierra Club Legal Defense Fund and other environmental advocates against the Metropolitan Transportation Commission (MTC), San Francisco was required to incorporate a number of TCMs which dated back to its 1982 SIP into its ozone maintenance plan. Because a number of these were imprecisely defined, the Bay Area air agency and the EPA regional office in 1996 questioned their timely implementation, which had not been well documented in previous conformity analyses. In response, MTC provided a more detailed description of the TCMs and explained the steps taken to implement them, which satisfied the air district and EPA that the conformity requirement was being met.

Meeting the Fiscal Constraint Requirement

Many study areas indicated that the fiscal constraint provision of ISTEA, also a conformity requirement, has had significant impact on transportation plans/programs. Many MPOs have had to pare down long lists of projects included in earlier plans for which funding could not be reasonably expected. As previously mentioned, Houston scaled back its Grand Parkway project to ensure that its long-range plan met ISTEA's fiscal constraint requirement. Only Boston and Denver among

the study sites, however, had any problems completing a conformity determination because of fiscal constraint problems.

Boston's problem in 1994 was not directly a conformity problem but did cause a delay in concluding the area's conformity determination. During the approval process of its FY 1995-97 STIP, FHWA's Massachusetts division office cited two fiscal constraint problems. FHWA believed that the second year of the STIP (FY 1996) was 100% over-programmed because it budgeted the sum of its highway apportionments, plus its unobligated balance. In addition, the state was counting on money from a bond bill not yet approved by the legislature to fund a major project during the first two years of the STIP. FHWA and FTA therefore deferred approval of the STIP pending resolution of these issues. This action effectively put the Boston TIP conformity determination on hold until the state produced a financially constrained STIP in March 1995. Although highway funding was held-up and TIP conformity could not proceed, this was not technically a "conformity lapse," having been caused by a funding dispute between FHWA and the state over the STIP.

In 1996, Denver area environmentalists raised fiscal constraint issues during the conformity process. Arguing that the MPO was mitigating emissions from the E-470 tollway project by claiming credit for transit expansion projects that did not have secure funding, they threatened to sue on the grounds that the plan was not adequately fiscally constrained. The MPO counter-argued that the emission benefits of the transit projects were so small that the projects could be totally removed from the plan without threatening the conformity

determination. Ultimately, no litigation was filed, and there was no delay in the conformity determination.

Links to SIP Failures

Under the 1993 conformity rule, certain types of SIP failures (described in Chapter 2) can trigger a conformity freeze or lapse, regardless of a satisfactory emission analysis of the transportation plan or program. Several examples of this were found in the 15 study sites.

Initially, areas had one year to submit a control strategy SIP and have EPA declare it complete – or else conformity would lapse. Given myriad challenges during the start-up phase of CAAA implementation, a number of areas around the country did not meet this deadline and therefore experienced conformity lapses while SIP requirements were completed. Two study areas – Atlanta and Houston – appeared on FHWA's lapse list during this period. It appears, however, that any impacts there were quite minimal. When interviewed later, area planners were either unaware of or didn't remember that a lapse had occurred.

Subsequently, the February 1995 conformity amendments increased the time for areas to submit complete SIPs to two years, aligning the SIP conformity lapse with imposition of CAAA highway sanctions. Several other study areas – including Baltimore, Boston, Milwaukee, New York City, Philadelphia and Phoenix – were saved from a lapse by this change.

Salt Lake City had a more serious SIP “completeness” problem. In 1993 it submitted an ozone attainment redesignation request, which EPA subsequently declared incomplete. Under the 1993 conformity rule, conformity was, in effect, frozen – that is, beginning 120 days after the finding, no new transportation plans or programs could be approved and no projects could be added to existing plans/programs. The area sued EPA; and as a result of subsequent negotiations, EPA declared the submission complete in July 1994, ending the problem.

Baltimore faced a potential SIP failure problem in 1997 when the Maryland legislature passed a law that would have made the state’s I/M program voluntary. This would have caused the 15% VOC reduction SIP to be disapproved by EPA. The Governor vetoed this bill at least in part because of the conformity implications of failing to implement the required form of I/M. At the end of the study period, Boston and New Jersey were also anticipating possible conformity problems associated with delays in their I/M programs.

Human Error

In the course of interpreting and executing the analytic and procedural requirements of conformity, three areas have had problems that are attributable simply to human error. Portland is the most dramatic example. In

1994, during the first conformity analysis under the 1993 conformity rule, the MPO had some difficulty interpreting the build/no-build requirements. Because it made incorrect assumptions about which projects should go into the build and the no-build scenarios, the conformity determination was invalid. When this was discovered, the area decided to let conformity lapse for a year rather than expending the resources to re-do the analysis. This decision resulted from the realization that a lapse would not interfere with currently planned projects, which were either exempt or grandfathered.

Boston also encountered conformity difficulty due to a human error. In 1994 the area could not pass the build/no-build tests for VOC, NO_x, or CO due to a calculation error in a spreadsheet the air agency provided to the MPO for the conformity analysis. After the two agencies probed the causes of the conformity problem for a few months, the error was discovered and corrected.

As mentioned above, the North Carolina air quality agency made a mistake in the calculation of Charlotte’s NO_x and VOC budgets in 1994, which made passing conformity easier at that time. However, when the error was corrected, subsequent emission analysis in 1996 – which also took account of changing conditions – revealed conformity difficulties that had not been resolved at the conclusion of the study period.